



Distributed Learning (DL) Instructor Contact Hours (ICH) Overview VTC #1

10 Dec 2004

Purpose

- **Discuss DL ICH requirement**
- **Discuss DL ICH requirement approval process**
- **Obtain information concerning DL ICH issues within TRADOC schools**
- **Obtain input for the development of a DL ICH model**

Agenda

- **Roll Call/ROE (Faughnan)**
- **Director's Comments (COL Vozzo)**
(DCSRM)
- **Introduction (Faughnan)**
- **Major issues (Faughnan/
Ms. King/Dr. Smith)**
- **Comments from the Field (10 minutes)**
 - **Dr Bauer AR School**
 - **SGM Magee USASMA**
 - **Donna Barr AMEDD**
 - **Scott Leonard MP School**
- **Discussion (1500-1530)**
- **Way Ahead**

Roll Call

HQ, TRADOC TDADD	AR School
HQ, TRADOC DCSRM	AV School
HQ, TRADOC TOMA	FA School
HQ, TRADOC TASSD	JAG School
ADA School	MANSCEN
ALMC	OMMS
AMEDD	QM School
CASCOM	USAMPS
CH School	USASMA
IN School	SI School
MI School	SSI

Rules of Engagement

- **VTC Etiquette**
- **All ideas/thoughts solicited**
- **Limit discussion of presentations to five minutes**

Director's Comments

Introduction

POI/ICH Implementation Process

Approval

- **Proponent School Commandant**

Verification

- **HQ, TRADOC**
 - **TOMA**
 - **DCSRM**

Load

- **DA, G1/G3 (SMDR)**

Timeline

Event

Date

**TDADD initiates Process Action Team
04**

29 Oct

Initial Meeting w/ DCSRM Modeling

16 Nov 04

**Team selection and acceptance
04**

19 Nov

VTC IPR w/ Dir, TDADD

03 Dec 04

**VTC / Teleconference w/stakeholders
Dec 04**

9-10

**VTC / Teleconference w/team (if required)
Jan 05**

TBD

First draft due Dir, TDADD

15 Jan 05

**Senior Leader IPR (Brief Draft)
Jan 05**

TBD

**Draft Plan w/ ICH computational formula to Dir, TDADD/
05**

25 Jan

Dir, MFAD

**Staffing of plan w/ proponent schools
Feb 05**

1-28

Brief Dir, TDADD / Dir, MFAD on school comments

07 Mar

Issues

DL ICH Issues

Issue: Definition of distributed learning

Discussion: Structured learning that takes place without the physical presence of an instructor. It includes synchronous and/or asynchronous instruction, delivered using one or more of the following media: audio/video tapes, CD-ROM, audio/video teleconferencing, correspondence courses, interactive television, and Internet-based instruction.

Source: The Army Distance Learning Program Campaign Plan 2001

DL ICH Issues

Issue: Definition of Student Load

Discussion: An annualized figure computed by multiplying input by course length and dividing by 50. Also referred to as average daily student load.

Issue: Definition of Instructor Contact Hours

Discussion: One hour of platform instruction in POI X number of instructors required

DL ICH Issues

Issue: Differing course designs.

Issue: Multiple delivery modes w/in a course.

Discussion: Instructional design of DL courses results in selection of a delivery mode, i.e. Computer-based instruction (CBI) or Video teletraining, which affects student load and ICH.

Recommendation: Account for differing course designs in developing model for DL ICH requirements.

Course Delivery Structure

Delivery Structure	Instructor Requirement	Instructor: Student Ratio
Structured Asynchronous (Internet-based university style)	High	1:20
VTT	High	1:20+
Blended (Internet-based-Instructor led, VTT, and Resident)	High	1:20+
Technical Independent CBI (Complex technical instruction)	Medium	1:100
Independent CBI (Correspondence Course on a CD-ROM)	Low	1:400+

DL ICH Issues

Issue: Determination of individual workload requirement and functions for roles such as: instructor, SME, DL program support, technical DL support.

Discussion: DCSRM accounts for a wide variety of functions affecting the delivery instruction, including delivery, development, and support.

Recommendation: Develop workload requirements reflecting the duties of DL instructors and support personnel. Utilize TD2 to ensure the training development workload is itemized.

DCSRM Models-Description of Work

- **Direct**
 - **Academic Instruction**
 - **Conducts seminar/conference/discussion/ demonstration**
- **Indirect**
 - **Course support**
 - **Input class support**
 - **Student support**
 - **Instructor support**
- **Additional Indirect hours**
 - **Administrative support**
 - **IT support**

DL ICH Issues

Issue: Fit current DCSRM Models

Issue: Determination of the number of instructors required for instruction.

Discussion: DCSRM models cover all resident training conducted by TRADOC schools. Development of DL only models requires extensive studies and resources.

Recommendation: Develop plan that capitalizes on the models currently in use.

DCSRM Models - VTT Course

Step 1: $y = S + P + SF + T$

Step 2: $y = 4Se + 6VSe + 0.1667VSe + 40I/3$

Step 3: $y = 4Se + 6.1667VSe + 13.3333I$

Step 4: $y = 4Si/60 + 6.1667VSi/60 + 13.3333I$

Step 5: $y = 0.0667Si + 0.1028VSi + 13.3333I$

Step 6: $Y = y/1740 = (0.0667Si + 0.1028VSi + 13.3333I)/1740$

Step 7: $Y = 0.00003833Si + 0.00005908VSi + 0.007663I$

y = VTT Instructor man-hours

S = Schedule

Se = Sessions = $Si/60$ (number of students per session)

SF = Student feedback

T = Training = $40I/3$ (Training one time req't based on rotation index of 3 yrs)

P = Practice/deliver

V = VTT academic hours

Si = Annual student input

I = Number of required instructors

Y = Instructor requirement = $y/1740$ (Annual manpower availability hours)

DL ICH Issues

Issue: Determination of student input for DL courses.

Discussion: Input results from DA selection or student self-selection. DA selection is standardized and can be modeled. Student self-selection fluctuates and cannot be easily modeled.

Recommendation: Incorporate historic data from ACCP to determine likely input for self-selection.

DL ICH Issues

Issue: POI/Interface with ASAT.

Discussion: ASAT drives the development of the course POI from which the ICH requirement is derived. DL courseware can be entered as a separate phase or as a different delivery mode.

Recommendation: Enter DL courseware as a separate phase. This allows the compilation of DL hours.

Comments from Field - AR School

Comments from Field - AR School

Problem

- **ADL development is well funded but ADL instructors are not**
- **ADL conversion does not eliminate all instructor requirements**
- **No ADL model for funding instructors exists**
- **Depending on ADL design & method of instruction instructor requirements can vary greatly (i.e., synchronous vs. asynchronous instruction).**

Comments from Field - AR School

Impacts

- **If ADL is implemented schools lose instructors and there is no requirement for any AC officer/NCO to use it**
- **Courses that are implemented are not well managed**
- **ADL instructors are funded “out- of hide”**
- **Lack of instructor resources discourages ADL courses that replace resident training**

Comments from Field - AR School

Solutions

- **Resource DL courses the same as resident courses**
- **Develop a TRADOC approved model based upon actual DL ICH**
- **Use an interim model that resources ADL courses at 25% of a comparable resident course**

Recommendation

- **Resource DL courses at the interim rate of 25% until enough data has been gathered to base instructor requirements upon actual ADL ICH**

Comments from Field - USASMA

Comments from Field - USASMA

Agenda

- **Purpose**
- **ICH Formula Recommendations:**
 - **Non-Resident Course (NR)**
 - **Video Tele-Training Course (VTT)**
 - **Mobile Training Team (MTT)**
- **Conclusion**

Comments from Field - USASMA

Purpose

To develop and standardize formula to compute instructor contact hours (ICH) to *design, develop, maintain, conduct*, and *provide administrative and technical support* to students enrolled in distributive learning in the U.S. Army

Comments from Field - USASMA

Non-Resident Course ICH-NR Formula

$$\frac{\text{Maximum Class Size}}{\text{Optimum Number of Students to be Trained in a Group}} = \frac{\text{Number of Student Groups}}{\text{Number of Academic Hours} \times \text{Number of Student Groups} \times \text{Number of Instructors Required Per Group}} = \text{Instructor Contact Hours}$$

When applying this formula to NR courses we compute the ICH-NR as follows:

$$\frac{400}{55} = \frac{7.3}{256 \times 7.3 \times 1} = 1,869$$

$$\frac{675}{80} = \frac{8.4}{310 \times 8.4 \times 1} = 2,616$$

Comments from Field - USASMA

Video Tele-Training ICH-VTT Formula

$$\frac{\text{Maximum Class Size}}{\text{Optimum Number of Students to be Trained at Each Site}} = \text{Number of VTT Site Groups}$$
$$\text{Number of Academic Hours} \times \text{Number of VTT Site Groups} \times \text{Number of Instructors Required At Each Site} = \text{Instructor Contact Hours}$$

When applying this formula to VTT courses we compute the ICH-VTT as follows:

$$\frac{80}{16} = 5$$
$$163 \times 5 \times 1.25 = 1,019$$

$$\frac{75}{14} = 5.4$$
$$120 \times 5.4 \times 1 = 648$$

Comments from Field - USASMA

Mobile Training Team ICH-MTT Formula

Maximum Class Size

Optimum Number of
Students to be Trained at
each Remote Site

= Number of
Remote
Groups

Number of
Academic
Hours

X Number of
Remote
Groups

X Number of Assistant
Instructors Required at
each Remote Site

= Instructor
Contact
Hours

When applying this formula to MTT courses we compute the ICH-MTT as follows:

$$\frac{80}{16} = 5$$

$$163 \times 5 \times 1 = 815$$

$$\frac{96}{14} = 6.9$$

$$185 \times 6.9 \times 1 = 1,277$$

Comments from Field - USASMA

Conclusion

- **The World Wide Web is the cornerstone of the distributed learning environment for the future.**
- **While the Web may not replace the traditional classroom anytime soon, it will surely enhance it.**
- **The Army must utilize future technological advances when it designs, develops, facilitates, and supports distributive learning products.**
- **It is time to establish a formal ICH.**

Comments from Field - AMEDD

Comments from Field - AMEDD

Distance Learning On-line: HSPFC

A1	Course Management						
	Hours Worked Per Month			Freq	Conv	Per	Per
			Freq	Code	Factor	Accomp	Month
A1.1	Assemble/Mailout Course Information		1	WK	4.348	1	4.35
A1.2	Prepare/Issue Certificates		1	WK	4.348	1	4.35
A1.3	Coordinate Commercial-Off-The-Shelf Contract (COTS)		1	WK	4.348	1	4.35
A1.4	Maintain Computer Log of Problems and Maintenance		1	WK	4.348	0.5	2.17
					Total Monthly Hrs		15.22
A2	Course Revisions:						
A2.1	Major Revisions/New ICW Development						
	Manhours worked per one hour of academic instruction revised:		150				
	DL Academic Hours:		10				
	Manhours times DL Academic Hours =		1500		manhours per year		
	Hours Worked Per Month			Freq	Conv	Per	Per
			Freq	Code	Factor	Accomp	Month
A2.1.1	Revise Distance Learning Course		1	MO	1	125.00	125
A2.2	Minor Revisions (updated on continuous basis):						
	Manhours worked per one hour of academic instruction revised:		15				
	DL Academic Hours:		10				
	Manhours times DL Academic Hours =		150		manhours per year		
	Hours Worked Per Month			Freq	Conv	Per	Per
			Freq	Code	Factor	Accomp	Month
A2.2.1	Revise Distance Learning Course		1	MO	1	12.50	12.5

Comments from Field - AMEDD

A3	Instructor Facilitation:							
	Facilitate Instruction				Freq	Conv	Per	Per
				Freq	Code	Factor	Accomp	Month
A3.1	Solve Problems/Answer Questions			3	week	4.348	4.5	58.70
A3.2	Research			3	week	4.348	1.5	19.57
						Total Monthly Hrs		78.26
A4	Course Administrator:				Freq	Conv	Per	Per
A4.1	ICW Maintenance			Freq	Code	Factor	Accomp	Month
A4.1.1	Identify Courseware Problems			1	year	0.08333	80	6.67
A4.1.2	Research Solutions to Problems			1	year	0.08333	80	6.67
A4.1.3	Implement and Test solutions to Problems			1	year	0.08333	80	6.67
A4.2	ICW Maintenance for COTS							
A4.2.1	Identify COTS Courseware Problems			1	year	0.08333	80	6.67
A4.2.2	Implement and Test COTS			1	year	0.08333	80	6.67
						Total Monthly Hrs		33.33
A5	Network Administrator:				Freq	Conv	Per	Per
	*Network Technician			Freq	Code	Factor	Accomp	Month
A5.1	To be determined							0
	(Possible contractor or IMO person)					Total Monthly Hrs		0
								Monthly
								Manhours
								15.22
Course Information					Course Management			
Name:	Health Systems Functional Proponent Crs				Course Revisions		Major	125.00
Number:	6A-F7						Minor	12.50
Academic Hours:	22.5				Instructor-On-Line			78.26
Department:	DHSA				Course Administrator			33.33
Branch:	Information Management Training Branch				Network Administrator			0
POC:	MAJ Peter Marks/17337						Total	264.31
				REQUIREMENTS (Monthly Hrs/MAF145)				1.82

Comments from Field - AMEDD

ADDITIVE FOR DISTANCE LEARNING (DL) INITIAL DEVELOPMENT TIME

		NOTE: Highlighted areas require input.						
COURSE:	NUMBER			Freq	Conv	Per	Per	
	TITLE			Freq	Factor	Accomp	Month	TOTAL
DL ACADEMIC HOURS:		20	DEPARTMENT:					
(Includes Technology Enhanced Instruction)			BRANCH:					
TASK			POC/PHONE:					
	DL INITIAL DEVELOPMENT TIME							
**	(Ratio of 10:1 Mnhrs to lesson plan, includes Tasks A1...A1.5.2)							
				1	MO	1	8.33333	8.33333
A1	CONCEPT, PLANNING AND CA&R							
A1.1	DL INITIAL CONCEPT							
A1.1.1	Overview/Determination Process to Proceed							
A1.2	DL PROJECT PLANNING							
A1.2.1	Prepare Business Plan (Set Goals/Timelines, Brief Dean)							
A1.2.2	Prepare Contractor Statement of Work							
A1.2.3	Review Contract Proposals							
A1.3	DL COURSE ANALYSIS AND REDESIGN (CA&R) PLANNING							
A1.3.1	Preliminary CA&R Analysis							
A1.3.2	Review existing materials							
A1.3.3	Write drafts of existing materials							
A1.3.4	Design initial draft of course data							
A1.3.4.1	Prepare already developed tasks for contractor							
A1.3.4.2	Write drafts of new tasks/lesson plans							
A1.4	CONDUCT CA&R							
A1.4.1	Review Existing/Revised Materials							

Comments from Field - AMEDD

	TLOs and ELOs							
A1.4.3	Determine method, time, sequence of each lesson plan							
A1.4.4	Examine reports/documents generated from CA&R							
A1.4.5	Plan and coordinate in-house writing projects for development							
A1.5	PROJECT/CONTRACT COORDINATION							
A1.5.1	Plan and coordinate funding							
A1.5.2	Plan and coordinate contract writing projects							
A2	DEVELOP NEW INSTRUCTIONAL MATERIAL (Lesson Plans)							
A2.1	SME development time (In-house)	1	MO	1	25	25		
	** (Ratio of 30:1 Mnhrs to lesson plan)							
A2.2	Digitization	1	MO	1	0	0.00		
	** (Ratio of .4:1 Mnhrs to lesson plan)							25.00
A3	MULTIMEDIA DEVELOPMENT							
A3.1	SME development time (In-hours)	1	MO	1	25	25		
	** (Ratio of 30:1 Mnhrs to multimedia lesson plan)							
A3.2	In-house Programmer/Graphics Spec	1	MO	1	12.5	12.5		
	** (Ratio of 150:1 Mnhrs to 10% of lesson plans)							
A3.3	Validate/Review/Approval of Multimedia Product	1	MO	1	10	10		
	** (Ratio of 12:1 Mnhrs to multimedia lesson plan)							47.50
					Total Monthly Hrs			72.50
**Based on proposed number of DL Academic Hours		Manpower Requirement/Monthly Hrs/145						0.50

Comments from Field - MP School

Comments from Field - MP School

Distributed Learning ICH Formula

- **Factors that have been considered**
 - **Instructor to student ratios.**
 - **Synchronous and Asynchronous**
- **Better Factor**
 - **Instructor/Student interaction level**

Comments from Field - MP School

Instructor Interaction Formula

- **Level is based on the amount of interaction between the instructor and student**
- **Applied after ASAT (TDDT) has calculated ICHs based on instructor to student ratio.**

Comments from Field - MP School

Interaction Level 1: ICH Factor .25

- **Lowest level**
- **Self paced, stand alone**
- **ICHs are used to:**
 - **answer questions on the courseware (although few are expected)**
 - **monitoring student progress**
 - **contacting students as necessary**
 - **administering/reviewing course critiques**
 - **updating/working in the LMS**

Comments from Field - MP School

Interaction Level 2: ICH Factor .5

- **Interaction is still primarily between the student and the system, however the content is so complex or involved that questions and help from the instructor are expected from the students.**
- **There could also be requirements in which the student must turn in coursework that the instructor must grade or review and give the student feedback.**

Comments from Field - MP School

Interaction Level 3: ICH Factor .75

- **Used for blended courses in which some of the instruction is between the student and system and some is between the student and instructor.**
- **An example would be, the student works through instruction with the system, then goes to an instructor led discussion board or chat room and discusses what they learned or how the instruction is affected by COE.**

Comments from Field – MP School

Interaction Level 4: ICH Factor 1

- **Highest level of DL.**
- **All learning activities (except for homework assignments and readings) are initiated and/or led by the instructor.**
- **Could be a complete VTT course or a course using a learning management content system such as Blackboard, WebCT, or future releases of ALMS.**
- **During this type of course the instructor prepares and posts a syllabus, weekly learning activities, assignments, and readings**
- **Instructor monitors and guides discussion on the discussion board, prepares test, evaluates student work and provides feedback to the student**
- **Basically the same as classroom instruction**

Comments from Field - MP School

Example

- **40 hours of ANCOC Interaction Level 2**
- **Optimum class size is 48 and training is conducted in small groups using an instructor to student ratio of 1:12**
- **Each instructor will guide and monitor his/her students through the DL portion prior to their arrival for resident training**
- **ASAT would calculate 160 ICHs for the instruction by multiplying the 160 by the ICH factor of .5, the result would be 80 ICHs for the DL portion**
- **This function could be built in to whichever training development tool we are using**

Comments from Field - MP School

Limitations

- **Will not work well with DL that does not have a defined class size, such as Sexual Harassment training that everyone must take. Therefore, we would have to come up with a standard class size for that type of instruction.**
- **Will only work with ATRRS driven courses. Courses not reviewed during the SMDR would have to be resourced some other way.**

Proposed DL ICH Factor Matrix

		Course Type			
Delivery Mode	Instr: Student Ratio	OES	NCOES	Functional	MOS Producing
Computer-based instruction	1:400	.1	.25	.1	.25
Technical Computer-based instruction	1:100	.5	.5	.2	.5
Blended	1:20+	.75	.75	.5	.75
VTT	1:20+	1	1	1	1
Structured Asynchronous	1:20	1	1	1	1

Factors related to percentage based upon resident instruction

Discussion

- **AR School**
 - **Resource DL courses the same as resident courses**
 - **Use an interim model that resources ADL courses at 25% of a comparable resident course**
- **USASMA**
 - **Non-resident course formula**
 - **VTT course formula**
 - **MTT formula**
- **AMEDD**
 - **Workload factors**
- **MP School**
 - **Factors based upon type of interaction**

Way Ahead

- **VTC #1 AAR** **17 Dec 04**
- **VTC #2** **TBD**
- **1st Draft** **15 Jan 05**
- **Senior LDR IPR** **TBD Jan 05**